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Anaexserticlava caatingae, a new conidial fungus from the semi-arid Caatinga biome of Brazil

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Abstract—An interesting fungus collected during investigations of microfungi on dead plant material in a semi-arid region of northeast Brazil is herein described and illustrated. *Anaexserticlava caatingae* gen. & sp. nov. is distinguished by differentiated dark brown conidiophores, holoblastic percurrent elongated conidiogenous cells that produce several sessile subcylindrical hyaline separating cells, and clavate to ovoid 5–6-distoseptate brown conidia.

Key words— asexual ascomycete, systematic, leaf litter, tropics

The semi-arid region of Brazil is located almost exclusively in the northeast region of the country occupying an area of approximately 900,000 km^2 (Giulietti et al. 2006). The Caatinga biome is the predominant vegetation and several new microfungi have recently been described in this region (Almeida et al. 2013, 2014; Barbosa et al. 2013; Cruz et al. 2012; Fiuza et al. 2014; Leão-Ferreira et al. 2013; Silva & Gusmão 2013; Silva et al. 2014). During a mycological survey of conidial fungi from the semi-arid region in Bahia and Piauí States, an interesting fungus was collected and showed remarkable differences from all previously described hyphomycete genera (Seifert et al. 2011). The specimen is therefore described as a new genus.

The samples of dead plant material were placed in paper bags, taken to the laboratory, and prepared according to Castañeda-Ruiz (2005). Mounts were prepared in PVL (polyvinyl alcohol, lactic acid, and phenol) and measurements were made at 1000× magnification. Microphotographs were obtained with an Olympus BX51 microscope equipped with bright field and Nomarski interference optics. The type specimen is deposited in the Herbarium of Universidade Estadual de Feira de Santana (HUEFS) and an additional specimen collected from another field expedition in the Herbarium of Universidade do Estado da Bahia (HUNEB/SB), Brazil.

Anaexserticlava T.S. Santa Izabel, R.F. Castañeda & Gusmão, **gen. nov.**

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Differs from *Exserticlava* by sessile, subcylindrical, hyaline separating cells and rhexolytic conidial secession.

Type species: *Anaexserticlava caatingae* T.S. Santa Izabel et al.

Etymology: Latin, *Anaexserticlava*, named after its morphological similarities to the hyphomycete genus *Exserticlava.*

Asexual fungi. Conidiophores distinct, single, unbranched, erect, straight, septate, smooth, dark brown. Conidiogenous cell holoblastic, integrated, terminal, with several enteroblastic percurrent extensions; conidial secession rhexolytic. Separating cells sessile, cylindrical to subcylindrical, hyaline. Conidia solitary, clavate to ovoid, distoseptate, pedicellate, smooth, first pale brown, later brown.

Anaexserticlava caatingae T.S. Santa Izabel, R.F. Castañeda & Gusmão, **sp. nov.**

MycoBank MB810633 Fig. 1

Differs from *Exserticlava* spp. by having sessile, subcylindrical to doliiform, hyaline separating cells and pedicellate conidia.

Type: Brazil, Piauí, Caracol, Serra das Confusões, 9°13′S, 43°29′W, on decaying leaves of an unidentified plant, 4.V.2011, coll. D.A.C. Almeida (**Holotype**: HUEFS173319).

Etymology: Latin, *caatingae,* referring to the Caatinga biome.

Colonies on the natural substrate effuse, hairy, brown. Mycelium mostly immersed, composed of branched, septate, smooth, pale brown hyphae, 1–2 µm diam. Conidiophores distinct, single, unbranched, erect, straight or slightly flexuous, septate, smooth, dark brown, pale brown toward the apex, 100–200 × 7.5–10 µm. Conidiogenous cells holoblastic, integrated, terminal, with several enteroblastic percurrent extensions, smooth, pale brown. Separating cells sessile, doliiform to subcylindrical, hyaline or subhyaline. Conidial secession rhexolytic. Conidia solitary, clavate to ovoid, rounded at the ends, pedicellate, 5–6-distoseptate, smooth, pale brown at first, brown after maturation, 20–27.5 × 7.5–12.5 µm; pedicels 3–4.5 × 1.5–3 µm.

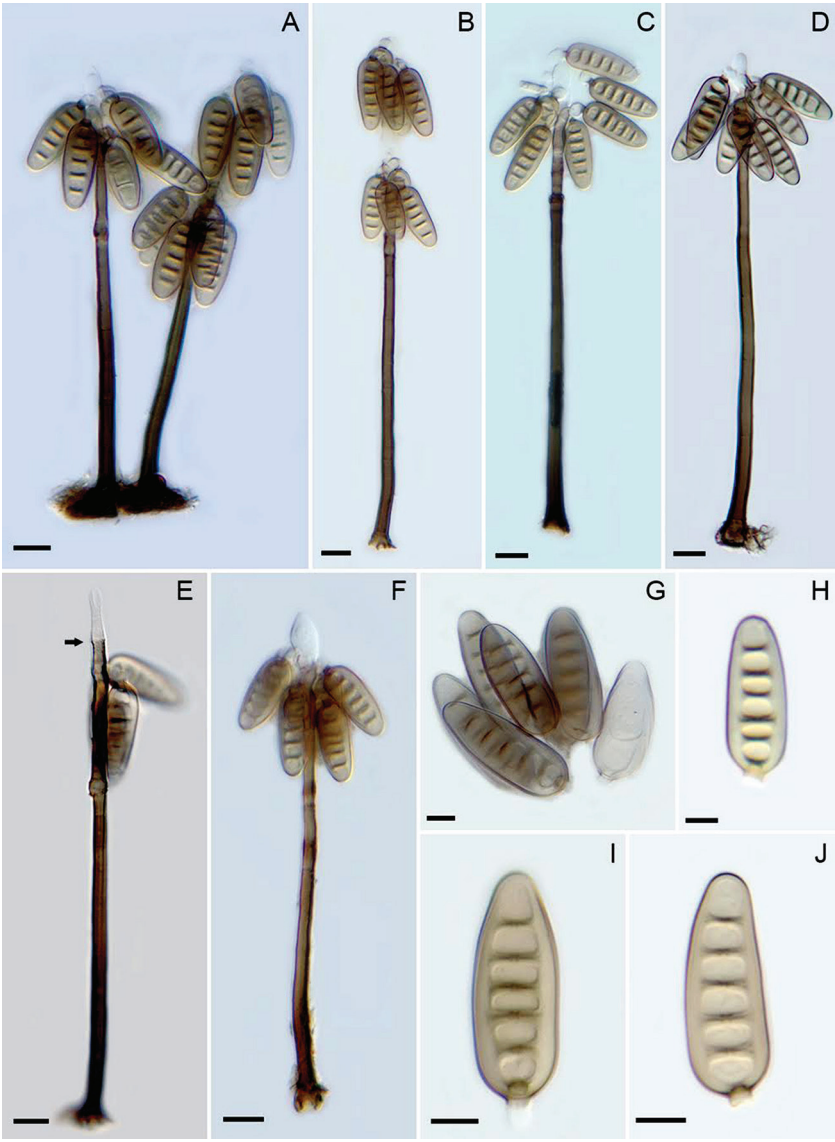

Fig. 1. *Anaexserticlava caatingae* (holotype HUEFS 173319): A–F. Conidiophores, conidiogenous cells, separating cells, and conidia. G–J. Conidia. Scale bars = 10 µm.

Additional specimen examined: **BRAZIL**, **Bahia**, Morro do Chapéu, on decaying leaves of an unidentified plant, 22.V.2008, coll. E.B. Santos (HUNEB/SB1484).

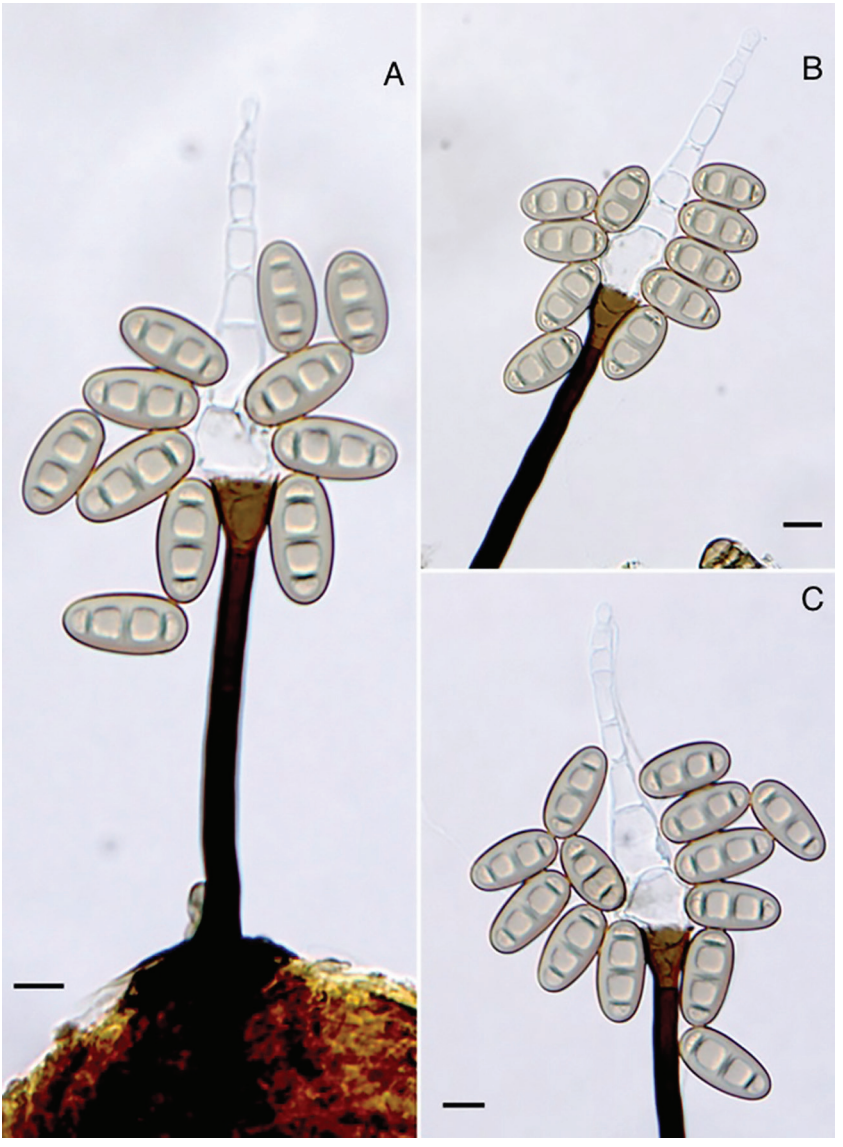

Fig. 2. *Exserticlava vasiformis* (ex HUEFS 155041): A–C. Conidiophores, conidiogenous cells, and conidia. Scale bars = 10 μm.

Note: Among the hyphomycete genera compiled by Seifert et al. (2011), only *Exserticlava* S. Hughes (Hughes 1978) has some similarities to *Anaexserticlava*,

but *Exserticlava vasiformis* (Matsush.) S. Hughes has schizolytic conidial secession and the conidia are not pedicellate at the base (Fig. 2).

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